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## **NOAA USES REMOTE SENSING TECHNOLOGY TO MONITOR AND IDENTIFY HARMFUL ALGAL BLOOMS**

Using remote sensing technology, scientists at the National Oceanic and Atmospheric Administration (NOAA) have developed a way to identify and monitor harmful algal blooms (HABs). This monitoring will help detect HABs along the coastal areas of the U.S., where they are a growing concern while providing more information to managers on how to reduce the impacts of these toxic blooms. NOAA is an agency of the U.S. Department of Commerce.

Scientists from NOAA's National Centers for Coastal Ocean Science (NCCOS) are monitoring HABs using a combination of ocean color satellite imagery with field and meteorological data.

Satellites from the Sea-viewing Wide Field of view Sensor (SeaWiFS), owned by OrbImage, provides information on the color of the water that can be used to determine characteristics of algae blooms. This satellite data, in conjunction with analysis of wind data from NOAA's National Weather Service and National Data Buoy Center, and field data from water samples provides the team with enough information to predict bloom movement, landfall, persistence and intensity.

SeaWiFS, scientists had no means other than field sampling to monitor HABs. The laborious and expensive sampling limited the ability of managers to determine the extent of the blooms.

Currently, NOAA is routinely monitoring HABs in the Gulf of Mexico. The SeaWiFS data has helped identify the extent and magnitude of the blooms. On the Florida Coast, the satellite imagery, coupled with models, has provided advanced detection of blooms, allowing the state and local officials to better direct resources for sampling. In Washington State, the technology has improved sampling and research on domoic acid, a neurotoxin produced by a diatom, which may cause permanent short-term memory loss in victims and is associated with Amnesic Shellfish Poisoning (ASP).

Upon detection of such HABs, state managers plan monitoring for shellfish beds and for stranded mammals, such as the endangered manatees, and provide advisories to local government to address beach cleanup and business concerns.

NOAA's National Ocean Service, which includes NCCOS, is dedicated to exploring, understanding, conserving and restoring the nation's coasts and oceans. It balances environmental protection with economic prosperity in fulfilling its mission of promoting safe navigation, supporting coastal communities, sustaining coastal habitats and mitigating coastal hazards.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of our nation's coastal and marine resources.

On the Web:

NOAA: <http://www.noaa.gov>

NOAA National Ocean Service: <http://oceanservice.noaa.gov>

NCCOS: <http://www.nccos.noaa.gov/welcome.html>

Remote Sensing Team & SeaWiFS: <http://www.ccma.nos.noaa.gov/rsd/>